PTO/SB/31 (06-03)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

NOTICE OF APPEAL FROM THE EXAMINER TO THE BOARD OF PATENT APPEALS AND INTEFERENCES

Docket Number (Optional): 0221-0003L

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450"
on _____

Signature _____

Typed or printed name Lisa L. Pringle

In re Application of: John J. Harrington

Application Number: 09/484,331 | Filed: 18 January 2000

For: Compositions and Methods for Non-Targeted Activation of Endogenous Genes

Art Unit: 1632 | Examiner: Ram Shukla

Applicant hereby **appeals** to the Board of Patent Appeals and Interferences from the last decision of the examiner.

The fee for this Notice of Appeal is (37 CFR 1.17(b)) $ 160.00

[x] Applicant claims small entity status. See 37 CFR 1.27. Therefore, the fee shown above is reduced by half, and the resulting fee is: $ _____

[ ] A check in the amount of the fee is enclosed.

[ ] Payment by credit card. Form PTO-2038 is attached.

[ ] The Director has already been authorized to charge fees in this application to a Deposit Account. I have enclosed a duplicate copy of this sheet.

[X] The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 50-2546 . I have enclosed a duplicate copy of this sheet.

[X] A petition for an extension of time under 37 CFR 1.136(a) (PTO/SB/22) is enclosed.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

[ ] applicant/inventor.

[ ] assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

[X] attorney or agent of record. Registration number 36,463

[ ] attorney or agent acting under 37 CFR 1.34(a). Registration number if acting under 37 CFR 1.34(a). _____

Anne Brown
Signature

Anne Brown
Typed or printed name

216.431.9900
Telephone number

7/10/03
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

[X] *Total of 2 forms are submitted. (original + Duplicate)

This collection of information is required by 37 CFR 1.191. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Short List of References

Publication List:

1. Discovery of Potent and Selective Small Molecule NPY Y5 Receptor Antagonists. I. Islam, D. Dhanoa, J. Finn, P. Du, M. Walker, J. Salon, J. Zhang, C. Gluchowski. Bioorg. Med. Chem. Lett. 2002, 12, 1767-1769.

2. Design, Synthesis and SAR of a Series of 2-Substituted 4-Amino-quinazoline Neuropeptide Y (Y5) Receptor Antagonists. H. Rueeger, P. Rigollier, Y. Yamaguchi, T. Schmidlin, W. Schiling, L. Criscione, S. Whitehead, M. Chiesi, M. Walker, D. Dhanoa, I. Islam, J. Zhang, C. Gluchowski Bioorg & Med.Chem. Lett. 2000 1175-1179.

3. Synthesis and Biological Activity of Oxo-7H-Benzo[*E*]Perimidine-4-Carboxylic Acid Derivatives as Potent, Non-Peptide Corticotropin Releasing Factor (CRF) Receptor Antagonists. Luthin, D.R., Rabinovich, A. K., Bhumralkar, D.R., Youngblood, K. L., Bychowski, R., Dhanoa, D.S., May, J. M. Bioorg. & Med. Chem. Lett. 1999, 765-770.

4. Serine Protease-Directed Small Molecule Probe Libraries (Invited paper) Dhanoa, D. S. et. al Med. Chem. Res. Special Combi-Chem Issue, 1998, 8:4/5, 187-205.

5. Modeling the G-Protein Coupled Neuropeptide Y Y1 Receptor Agonist and Antagonist Binding Sites. P. Du, Dhanoa, D. S., et. al. Protein Eng. 1997, 10(2) 109-117.

6. Pharmacology of L-744,453, a Novel Nonpeptidyl Endothelin Antagonist. DL Williams, KL Murphy, NA Nolan, JA O'Brian, EV Lis, DJ Pettibone, BV Clineschmidt, SM Krause, DF Veber, EM Naylor, PK Chakravarty, TF Walsh, DS Dhanoa, A Chen, SW Bagley, KJ Fitch, WJ Greenlee. *Life Sciences*, 1996, 58, 1149.

7. Neuropeptide Y: A Promising Therapeutic Target (Review). DS Dhanoa. *Expert Opinion on Therapeutic Patents*. 1995, 5 (5), 391.

8. L-747,844: A Potent Orally Active Non-peptide Endothelin Antagonists. PK Chakravarty, DS Dhanoa, S Bagley, JR Tata, WJ Greenlee, DL Williams, BV Clineschmidt, DJ Pettibone. 13th International Symposium on Medicinal Chemistry, Paris, Sept. 19-23, 1994.

9. Nonpeptide angiotensin II (AII) Receptor Antagonists: N-substituted Indole, Dihydroindole, Phenylaminophenylacetic Acid and Acylsulfonamide-Based AII Receptor Antagonists. DS Dhanoa, SW Bagley, RSL Chang, VJ Lotti,SD Kivlign, GJ Zingaro, PKS Siegl, WJ Greenlee. Peptides: Chemistry, Structure and Biology. *Proceedings of the 13th American Peptide Symposium;* RS Hodges, JA Smith, Eds.; Escom, Leiden, 1994, 296.

10. Acidic Phenols: A New Class of Potent Nonpeptide Angiotensin II Receptor Antagonists. D Kim, NB Mantlo, JR Tata, KJ Fitch, D Dhanoa, K Owens, D. Levorse, PKS Siegl, RSL Chang, TB Chen, S Scheck, GJ Zingaro, SD Kivlign, WJ Greenlee. *Bioorg. Med. Chem. Lett.* 1994, 4, 207.

11. Nonpeptide Angiotensin II Receptor Antagonists. 2. Design, Synthesis, and Biological Activity of N-Substituted (Phenylamino)phenylacetic Acids and Acyl Sulfonamides. DS Dhanoa, SW Bagley, RSL Chang, VJ Lotti, TB Chen, SD Kivlighn, GJ Zingaro, PKS Siegl, AA Patchett, WJ Greenlee. *J. Med. Chem.* 1993, 36, 4239-4249.

12. Nonpeptide Angiotensin II Receptor Antagonists. 1. Design, Synthesis, and Biological Activity of N-Substituted Indoles and Dihydroindoles. DS Dhanoa, SW Bagley, RSL Chang, VJ Lotti, TB Chen, SD Kivlighn, GJ Zingaro, PKS Siegl, AA Patchett, WJ Greenlee. *J. Med. Chem.* 1993, 36, 4230-4238.

13. (Dipropylphenoxy)phenylacetic acids: A New Generation of Nonpeptide Angiotensin II Receptor Antagonists. DS Dhanoa, SW Bagley, RSL Chang, VJ Lotti, TB Chen, SD Kivlighn, GJ Zingaro, PKS Siegl, PKChakravarty, AA Patchett, WJ Greenlee. *J. Med. Chem.* 1993, 36, 3738-3742.

14. Design, Synthesis and Biological Activity of N-Substituted Indole, Dihydroindole, (phenylamino) Phenylacetic Acid and Acylsulfonamides-Based AII Receptor Antagonists. DS Dhanoa, SW Bagley, RSL Chang, VJ Lotti, T Chen, SD Kivlighn, G Zingaro, PKS Siegl, WJ Greenlee. 13th American Peptide Synposium, June 20-25, 1993, Edmonton, Alberta.

15. Angiotensin II Antagonists Incorporating an N-Substituted (phenylamino)phenylacetic acid as a Biphenyl Replacement. SW Bagley, DS Dhanoa, RSL Chang, VJ Lotti, T Chen, SD Kivlighn, G. Zingaro, PKS Siegl, WJ Greenlee. 206th ACS National Meeting, August 22-27, 1993, Chicago, IL.

16. Potent AT_1 Selective Angiotensin II Receptor Antagonists. DS Dhanoa, SW Bagley, RSL Chang, VJ Lotti, PKS Siegl, AA Patchett, WJ Greenlee. 204th ACS National Meeting, August 23-28, 1992, Washington, DC.

17. Design and Synthesis of Macrocyclic Renin Inhibitors. AE Weber, MG Steiner, DS Dhanoa, WJ Greenlee, AA Patchett. 200th ACS National Meeting, Aug 26-31, 1990, Washington, DC.

18. The Synthesis of Potent Macrocyclic Renin Inhibitors. DS Dhanoa, WH Parsons, WJ Greenlee, AA Patchett.*Tetrahedron Lett.* 1992, 33, 1725.

19. Highly Potent, Orally Active, P_2-P_1' Linked Macrocyclic Human Renin Inhibitors. AE Weber, MG Steiner, L Tang, DS Dhanoa, JR Tata, TA Halgren, PKS Siegl, WH Parsons, WJ Greenlee, AA Patchett. Peptides:

Chemistry, Structure and Biology. *Proceedings of the 12h American Peptide symposium;* JA Rivier, JA Smith, Eds.; Escom, Leiden, 1992, 749.

20. Synthesis and Charcterization of a Novel Selective Insect GABA Receptor Radioligand. S. Meegalla, D. Doller, G. Silver, N. Wisnewski, R. Soll, D. Dhanoa. 225 the ACS National Meeting. Medi. 222, (2003).

Appl. No.: 09/484,331
Amdt. Dated: July 10, 2003
Reply to Office Action of: January 13, 2003

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PROFESSIONAL EXPERIENCE

Jan 2002- **Predix Pharmaceuticals Inc.** Woburn, MA

Senior Vice President, Research and Discovery

- **ESTABLISHED and RAN ALL US operations (as Acting CEO) of Predix Pharmaceuticals in 2002**
- **RENAMED the Company from BioInformation Technology to Predix Pharmaceuticals based on Predict Technology**
- **Selected Location and Building/Equipped/Operated the current Boston site of Predix Pharmaceuticals**
- **Arranged for $500,000 Lease Financing for NMR and LCMS instruments**
- **As Senior VP R&D, acted as CEO and Directed and Managed All General Corporate and Research & Discovery Strategy, Execution and Operations in USA**
- **Responsible for Leading and Directing the R&D strategy and operations in the US while working closing with the CTO and COO in Israel**
- Responsible for all **Drug Discovery and Development integration** with in silico technology to ensure successful identification of drug development candidates for Internal Therapeutic Programs and potential Collaborations with Pharmaceutical and Biotech partners
- Responsible for Recruiting Scientific/ Administration staff for conducting US operations.
- Responsible for Selecting Drug Discovery Targets
- Invented and Authored **Eleven US provisional patent applications** on Predix's discovery of Novel Small Molecule Drug Candidates for CNS and Inflammation disorders
- Directed Predix's all Chemistry drug design, Preclinical drug discovery and development and operations

2000-2001 **Pharmacore, Inc.** (High Point, North Carolina)

May 01 – Dec 01 **Chief Scientific Officer, PharmaCore, Inc.**

- Responsible for Strategy, Development, Management and Direction of R&D, Technology, Business Development, Patent Inventions and Writing, and General Operations and Corporate Development
- Responsible for Achieving overall R&D Operation and Corporate Goals
- Responsible for Hiring, Managing, Directing, Training and Developing of all Scientists
- Responsible for R&D Budget
- Responsible for Allocation of Scientific Staff
- Responsible for Evaluating Technology and Acquisitions
- Responsible for Identifying Novel and Promising Drug Discovery Targets
- Responsible for Technology Development for post-Genomics,/ Proteomics era and Small Molecule Drug Discovery and Implementation
- Established Technology, Products and Services based Deals
- Demonstrated Track Record of Exceeding Corporate Goals
- Hands-on Results Oriented Forward Looking Manager with Innovative and Visionary Leadership
- Served as Scientific Advisory Board Member of a leading Drug Discovery company
- Essentially Serving as CSO/COO of PharmaCore since its Inception

May 00-May 01 **Executive Vice President, Research & Development, PharmaCore, Inc.**

- Joined the company as the first employee and recruited all scientists to date
- Designed the entire facilities, had it built & equipped with state-of-the art equipment
- Assembled Scientific Team and Recruited Business Development personnel
- Identified Biological Targets for Acquisition
- Directed Small Molecule Drug Discovery
- Directed and Implemented Integrated Drug Discovery Technology Applying Protein Structure-based Drug Design with High Throughput Technologies: Combinatorial and Medicinal Chemistry, High Throughput Screening and Molecular Modeling, Pharmacology and Pharmacokinetics (ADMET)
- Created a portfolio of over 500 products ranging from novel drug-like building blocks, unnatural amino acids and heterocyclic building blocks designed to leverage drug discovery
- Created novel small molecule libraries of drug-like structures
- Designed and produced novel GPCR, Proteases, Kinases, and Nuclear Receptor Small Molecule Modulators and Lead Finding and Focused libraries
- Served as Scientific Advisory Board Member of TransTech Pharma, High Point, North Carolina

1997-2000 **3-Dimensional Pharmaceuticals, Inc.** (Exton, PA)

(1999-2000) **Executive Director, Drug Discovery**

- Directed and managed Drug Design , Discovery and Development of Clinical Candidates(combinatorial, medicinal, structure-based drug design, computational and analytical chemistry for bio-disposition for ADMET profiling
- Directed the Following therapeutic areas;
  - Thrombin Inhibitors (Anti-thrombotic)
  - Urokinase Inhibitor (Anticancer)
  - Vitronectin Antagonist (Anticancer)
  - MMP Inhibitprs (Anticancer)
  - MDM-2 (Anticancer)
- Presented technology to potential corporate partners
- Make presentations at CHI, IBC, SRI and other international meetings for business development
- Directed & Managed Corporate Collaborations in drug discovery with the following companies:
  - DuPont Pharmaceutical
  - Aventis
  - Boehringer Ingelheim Research Institute
  - Merck KGaA
  - Heska Corp
  - DuPont Agrochemical Products
- Responsible for budget projections
- Recruited and developed senior scientists and managers
- Filed 10 patents
- Produced **250,000+ compounds** by combinatorial chemistry using state-of-the-art technology
- Designed and developed solid- and solution-phase synthesis of over **25 Drug-Like Scaffold libraries**
- Presented 7 papers on combinatorial chemistry at the ACS Meeting in Anaheim, CA (March 21-24, 1999)
- **Invited Editor for a future Book on Pharmacogenomics in Drug Discovery (Marcel Dekker, Inc.)**

(1997-1999) **Senior Director, Chemistry**

- Created **100,000+ compounds in 20+ diverse libraries of Drug-Like Molecules**
- Created 1.5 Billion accessible molecules in virtual library database
- Directed 20 scientists (CombiChem group, Merck and Heska Collaborations)
- Developed solution and solid phase synthesis of 25 scaffolds for libraries

- Key player in developing and promoting company's drug discovery technology to establish partnerships with Pharmaceutical, Biotech, Agrochemical Companies
- Designed and equipped state-of-the-art chemistry laboratories
- Presented at National and International Conferences (CHI, IBS, ISLAR, SRI)
- President's Award for Exceptional Performance in Building Combinatorial Chemistry Department, Small Molecule Libraries and its Integration into Drug Discovery Technology
- Filed 4 Patents on novel GPIB/IX Inhibitors as Anti-Thrombotic agents
- Contributed to business development with pharmaceutical, biotech and agrochemical companies to enhance company growth and revenues by making presentations on 3DP technology
    - Bristol Myers Squibb
    - Pharmacia & UpJohn
    - DuPont Pharmaceuticals
    - SmithKline Beecham
    - Merck KGaA
    - Boehringer Ingelheim
    - Chugai Pharmaceuticals
    - Daiichi Pharmaceuticals
    - Aventis
    - Millennium Pharmaceuticals
    - BioGen
    - Hewlett-Packard
- Established drug discovery collaborations worth over $150 million

1995-1997 **Alanex Corporation (Agouron Pharmaceuticals), Subsidiary of Pfizer, Inc.**

Director, New Lead Discovery Chemistry

- Directed and Managed Internal and partnered Drug Discovery Programs
    - NPY Antagonists (Obesity)
    - CRF Antagonists (Anxiety and Depression)
    - Glucagon Anatgonists (Diabetes)
    - GLP-1 Like Agonist (Diabetes)
    - 5-HT7 Antagonists (Pain)

- Developed & implemented combinatorial Chemistry Technology for Accelerating Lead Discovery
- Managed company's internal and external projects
- Established 3 strategic alliances in a short period of time worth over $100 million with the following companies:
    - Novo Nordisk
    - Astra Pain Control Unit
    - Roche Bioscience
    - Hoffman La Roche
- Directed lead generation and optimization for drug discovery
- Created diverse exploratory libraries of **200,000 Small Molecules** of drug-like structures which contributed significantly to the acquisition of Alanex by Agouron Pharmaceuticals in 1997 for $63 Million
- Directed/managed a chemistry department of 18 scientists
  Directed drug discovery collaborations with Novo Nordisk and Roche Bioscience
- Key player for developing partnerships with Pharmaceutical and Biotech Companies as well as in the Road Show for IPO activities

1993-1995 **Synaptic Pharmaceutical Corporation** (Paramus, New Jersey)

Associate Director, Medicinal Chemistry

- Directed discovery chemistry in anti-obesity drug discovery (NPY5) collaboration with Novartis worth $50 million
- Experienced in fostering and managing interdisciplinary project teams for enhancing efficiency and productivity
- Directed & Managed Medicinal Chemistry Group
- Directed Neuropeptide Y Drug Discovery Program
- Collaborated in NPY Program (for cardiovascular & anti-obesity) with Novartis, Basel, Switzerland
- Discovered the First 1-10 nM Y5-Selective Nonpeptidic NPY Antagonists
- Lead scientists in establishing Combinatorial Chemistry Group
- Principal Investigator for GPCR Libraries (cancer, arthritis, CNS disorders)
- Inventor of NPY Antagonist Patent (WO 9719682-A1)
- Above patent led to 4 additional Patents by Ciba-Geigy (Novartis)
- Published a Review on NPY- a promising target for Drug Development
- Participated as Advisor on 5HT and Galanin prgarams

1987-1991 Merck Research Laboratories, Merck & Co., Inc. (Rahway, New Jersey)

(1991-1993) **Senior Research Fellow, Medicinal Chemistry**

- Discovered Novel Macrocyclic Renin Inhibitors for Hypertension
- Designed/Discovered/Developed Angiotensin II Antagonists
- A Key Team Member of the AII Antagonist Program which Launched the First AII Anatagonist, Cozaar and Hyzaar for the Treatment of Hypertension
- Discovered Novel Lead Series for Endothelin Antagonists from Library of Dipropylphenoxyphenylacetic Acids
- Inventor of over 25 Patents during tenure at Merck
- Discovered 4 clinical candidates as Angiotensin II antagonists for the treatment of Hypertension and Congestive Heart Failure

(1987-1991) **Senior Research Chemist, Medicinal Chemistry**

- Designed/Discovered/Developed Novel Macrocyclic Renin Inhibitors for the Treatment of Hypertension
- Designed and completed Synthesis of Enantiomerically Pure Macrocyclic Renin Inhibitor (Tet Lett 1992)
- Discovered Non-peptidic Angiotensin II Antagnists
- Discovered Indole-Based AII Antagonists
- Discovered Phenylaminophenyl Acetic Acid-Based AII Antagonists
- Discovered New Generation of Dipropylphenoxyphenylacetic Acids as Angiotensin II Antagonists
- Published several papers from Drug Discovery Research at Merck & Co. Inc.
- Discovered 3 clinical candidates as Angiotensin II antagonists for the treatment of Hypertension and Congestive Heart Failure

1983-1987 University of Montreal (Montreal, Quebec)

Post-Doctoral Research Fellow **(Advisor: Prof. S. Hanessian)**

- Developed Synthetic Technology for the Synthesis of Complex Molecules of Medicinal Interest
- Designed and Executed the Synthesis of (-)-Reserpine(Antihypertensive and Anti-depressant drug) from D-Mannose using Intramolecular Nitrile Oxide Cycloaddition Strategy: A Novel Methodology for Conversion of Sugars to Chiral Carbocycles
- Executed Design and Synthesis of Antibiotic (+)-Palitantin
- Developed Methodology for Natural Product Synthesis from Amino Acids and Carbohydrates
- Developed a Novel Intramolecular Radical Cyclization Under Mild Conditions

EDUCATION

1980-83 Ph.D. Organic Chemistry, Wayne State University, Detroit, MI, USA

1976-78 M.Sc. Organic Chemistry, McMaster University, Hamilton, Ontario, CANADA

Management Training

- Leadership and Management Development for Biomedical Scientific Managers
- Towers Perrin Management Training at 3-Dimensional Pharmaceuticals

Honors, Awards, Memberships

- **President's Award for Exceptional Achievements in Drug Discovery at 3-D Pharmaceuticals**
- Editorial Board Member, Biotechnology and Bioengineering: Combinatorial Chemistry
- Currently Editing a comprehensive book on "Pharmacogenomics in Drug Discovery and Development"
- Reviewer for Journal of Medicinal Chemistry
- Reviewer for Drug Discovery Today
- Reviewer for Biotechnology and Bioengineering (Combinatorial Chemistry)
- Reviewer for Tetrahedron Letters
- Reviewer for Journal of Organic Chemistry
- Reviewer for Bio-organic & Chemistry Letters
- Reviewer for Synthesis
- Reviewer for Organic Letters
- American Association for the Advancement of Science (AAAS)
  American Chemical Society
- Organic Chemistry Division
- Medicinal Chemistry Divisions
- Phi Lambda Upsilon
- Lubrizol Foundation Fellowship (1982-83)

SKILLS

Drug Discovery and Development Strategy, Business Development and Management

- Established, Directed and Managed R&D at Predix Pharmaceuticals
- Established and Managed R&D at PharmaCore Inc.
- Build and Lead Drug Discovery organizations by recruiting, retaining and developing innovative R&D scientists
- Overseeing Strategy and Operations in Drug Design, Discovery and Development from initial Target Selection to Drug Development Candidates
- Establish Collaborations and Partnesrships with Pharma and Biotechs

Small Molecule Drug Discovery Collaboration Management Experience

Developed & Managed Collaborations with various Pharmaceuticals/Biotechs

- Aventis (1999-)
- Boehringer Ingelheim Pharmaceutical Institute (1999-Present)
- DuPont Pharma(2000-)
- Heska Corp, Fort Collins, CA, USA (1998- Present)
- Merck KGaA, Darmstadt, Germany (1997- 1999)

- Roche Bioscience, Palo Alto, CA, USA (1996-97)
- Novo Nordisk, Copenhagen, Denmark (1995-97)
- Astra, Montreal, Canada (1995-96)
- Novartis, Basel, Switzerland (1994-95)

Drug Discovery and Development Experience

- Design, Synthesis and Development of Therapeutics Products
- Renin Inhibitors for the Treatment of Hypertension and Congestive Heart Failure at Merck
- Angiotensin II Receptor Antagonists for Hypertension and Congestive Heart Failure at Merck
- Development of Merck Anti-hypertensive Drug Losartan (Cozaar®) Back-Up for the treatment of Hypertension Congestive Heart failure
- Endothelin (ET) Receptor Antagonists for Myocardial Infarction
- Neurotensin Receptor Antagonists for the Treatment of Pain
- Neuropeptide Y (NPY) Receptor Antagonists for the Treatment of Obesity
- Corticotropin Releasing Factor (CRF) Antagonists for Anxiety & Depression
- Glucagon Antagonist for the Treatment of Diabetes
- Glucagon-Like Peptide (GLP-1) Receptor Agonists for Obesity
- Opiate Receptors for Treatment of Pain
- Serotonin (5-HT7) Receptors for the Treatment of Pain
- GPIb/IX Antagonists for the Treatment of Thrombosis
- GABA-gated Chloride Channel Antagonists as Insecticides
- Thrombin Inhibitors
- Urokinase Inhibitors
- Vitronectibn Antagonists (Integrins)
- Mdm-2 Antagonists
- MMP Inhibtors

Medicinal, Combinatorial Chemistry & Structure-Based Drug Design Experience

- Structure-based drug design , Combinatorial and Medicinal Chemistry, Molecular Modeling, HTS
- Design and Synthesis of Small Molecules for orally active drugs for the treatment of Hypertension, Congestive Heart Failure, Thrombosis, Myocardial Infarction (Stroke), Obesity, Diabetes, Cancer Anxiety, and Depression
- Developed Combinatorial Library Synthesis of 200,000+ Discrete Compounds at Alanex Corporation
- Developed Library Synthesis for 160,000 compounds
- Design and Synthesis of drug-like Molecule Libraries
- Peptidomimetics Design and Library Synthesis
- Solution, Solid Phase and Sequestering /Inverse Solid Phase Chemistry
- Molecular Diversity by Convergent Design of Combinatorial Libraries
- Multi-Component and Multi-Step Libraries
- Organometallic Chemistry
- Design and Synthesis of Diverse, Exploratory, Directed and Custom Libraries for Enhancing Discovery of Orally Active Drugs
- Amino Acid and Carbohydrate Chemistry
- Computer-Aided Drug Design

PUBLICATIONS/POSTERS

1. Discovery of Potent and Selective Small Molecule NPY Y5 Receptor Antagonists.
I. Islam, D. Dhanoa, J. Finn, P. Du, M. Walker, J. Salon, J. Zhang, C. Gluchowski.
Bioorg. Med. Chem. Lett. 2002, 12, 1767-1769.

2. Efficient Synthesis of Novel 2-(2,6-dichloro-4-trifluoromethylphenyl)tetrahydrocyclopenta, tetrahydrothiopyrano, hexahydrocycloheptapyrazoles and Tetrahydroindazoles.

S. Meegala, Sha, D.; R. Liu, G. Silver, R. Soll, D.S. Dhanoa, Tet. Lett. Submitted, 2002, 43, 8639.

3. Synthesis and Charcterization of a Novel Selective Insect GABA Receptor Radioligand .
S. Meegalla, D. Doller, G. Silver, N. Wisnewski, R. Soll, D. Dhanoa. 225 the ACS National Meeting. Medi. 222, (2003).

4. Design, Synthesis and SAR of a Series of 2-Substituted 4-Amino-quinazoline Neuropeptide Y (Y5) Receptor Antagonists.
H. Rueeger, P. Rigollier, Y. Yamaguchi, T. Schmidlin, W. Schiling, L. Criscione, S. Whitehead, M. Chiesi, M. Walker, D. Dhanoa, I. Islam, J. Zhang, C. Gluchowski
Bioorg & Med.Chem. Lett. 2000 1175-1179.

5. Solid Phase Synthesis of 2,4-Diaminoquinazolines.
Z. Wu, J. Kim, R. Soll, D. S. Dhanoa*
J. of Biotech & Bioeng., Combinatorial Chemistry, in press

6. Solid Phase Synthesis of Amido-Sulfonamide Library. ACS Meeting, Mar 21-24, 1999
Dale S. Dhanoa*, Zhengdong Wu, Ruiping Liu, Deyou Sha, Richard M. Soll
ACS Meeting, March 21-24, 1999, Anaheim, CA.

7. Solid Phase Synthesis of 2,4-Diaminoquinazoline Library
Dale S. Dhanoa*, Zhengdong Wu, Jooyoung Kim, Richard M. Soll
ACS Meeting, March 21-24, 1999, Anaheim, CA.

8. β-Hydroxyethylamine-based Libraries from Epoxide Opening with Amines
Dale S. Dhanoa*, Jinsheng Chen, Zhengdong Wu, Deyou Sha, Richard M. Soll
ACS Meeting, March 21-24, 1999, Anaheim, CA.

9. High Throughput Synthesis of Alkylated Heterocycles Library
Dale S. Dhanoa*, Zhengdong Wu, Deyou Sha, Richard M. Soll
ACS Meeting, March 21-24, 1999, Anaheim, CA.

10. Use of Resin-Bound Base in Sequential Dialkylation of Benzimidazole Thions for Library Synthesis
Dale S. Dhanoa*, Zhengdong Wu, Deyou Sha, Richard M. Soll
ACS Meeting, March 21-24, 1999, Anaheim, CA.

11. Solid Phase Synthesis of O-Guanidino-Sulfonamide Library
Dale S. Dhanoa*, Declan Ryan, Richard M. Soll
ACS Meeting, March 21-24, 1999, Anaheim, CA.

12. A Convergent Strategy for Synthesis of Diverse Libraries via Imines
Dale S. Dhanoa*, Varsha Gupta, Anthony Sapienza, Richard M. Soll
ACS Meeting, March 21-24, 1999, Anaheim, CA.

13. Synthesis and Biological Activity of Oxo-7H-Benzo[*E*]Perimidine-4-Carboxylic Acid Derivatives as Potent, Non-Peptide Corticotropin Releasing Factor (CRF) Receptor Antagonists.
Luthin, D.R., Rabinovich, A. K., Bhumralkar, D.R., Youngblood, K. L., Bychowski, R., Dhanoa, D.S., May, J. M.
Bioorg. & Med. Chem. Lett. 1999, 765-770.

14. Serine Protease-Directed Small Molecule Probe Libraries (Invited paper)
Dhanoa, D. S. et. al Med. Chem. Res. Special Combi-Chem Issue, 1998, 8:4/5, 187-205.

153. Modeling the G-Protein Coupled Neuropeptide Y Y1 Receptor Agonist and Antagonist Binding Sites.
P. Du, Dhanoa, D. S., et. al. Protein Eng. 1997, 10(2) 109-117.

164. Pharmacology of L-744,453, a Novel Nonpeptidyl Endothelin Antagonist.

DL Williams, KL Murphy, NA Nolan, JA O'Brian, EV Lis, DJ Pettibone, BV Clineschmidt, SM Krause, DF Veber, EM Naylor, PK Chakravarty, TF Walsh, DS Dhanoa, A Chen, SW Bagley, KJ Fitch, WJ Greenlee. *Life Sciences*, 1996, 58, 1149.

17. Y-Type Receptors for NPY, PYY and PP: a Human Target-Based Drug Design System.
MW Walker, JA Bard, C Gerald, KE Smith, RL Weinshank, PJ Vaysse, P Du, W Cui, JA Salon, I Islam, D Dhanoa, C Gluchowski, TA Branchek.
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GPIb/IX Receptor Antagonists as Antithrombotic Agents (3-D Pharmaceuticals and Merck KGaA)

28. Substituted Benzo[de]isoquinoline-1,3-diones I(With Merck KGaA, Darmstadt, Germany) US PTO 09/199,409

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INVITED LECTURES

1. Structure-Based Drug Discovery in GPCR Targets
Genomic Partnering Meeting, Feb 23-24, 2002, Santa Clara, CA
Cambridge Healthtech Institute, MA

2. Novel Building Blocks for Small Molecule Drug Discovery
Sixth Annual Conference on High Throughput Organic Synthesis
Feb 14-16, 2001

3. Strategies for Discovering Novel Clinical Candidates for Anti-thrombotic and Cancer Drugs
Fifth Annual Conference on Exploiting Molecular Diversity
Feb 4-7, 2000

4. Combinatorial Lead Optimization in Drug Discovery
CHI's Smarter Lead Optimization: Easing the Bottleneck
March 18-19, 1999, LaJolla, CA

5. Combinatorial Chemistry and Drug Discovery
Feb 20-24, 1999, Osaka, Japan

6. Probe Library Design and High-Througput Synthesis in Drug Discovery
CHI's 4th Annual Meeting on High-Throughput Organic Synthesis..
February 4-5, 1999, La Jolla, CA

7. From Functional Genomics to Prototype Drugs
International Symposium on Laboratory Automation and Robotics
October 18-21, 1998, Boston, MA

8. From Functional Genomics to Small Molecule Prototype Drugs; by D. S. Dhanoa
Drug Development Partnering, June 11-12, 1998, Dallas, TX

9. Design and Synthesis of Novel, Potent and Orally Active Small Molecule as Potential Antihypertensive and Anti Stroke Agents
Royal Danish School of Pharmacy, Copenhagen, Denmark. 3/ 12,97.

10. Chemical Strategies for Building Maximally Diverse Exploratory and Targeted Libraries
Rational and Random Combinatorial Chemistry Approach to Drug Discovery. October 3, 1996, Geneva, Switzerland

11. Synthesis of Small Molecule Libraries for the Discovery of Novel G-protein Coupled Receptors Antagonists.
Lead generation and optimization conf., March 21, 1996, New Orleans, LA

12. Recent Advances in the Design, Discovery and Development of Novel Cardiovascular Drugs
Prof. Hanessian Symposium, University of Montreal, Montreal, Quebec, Canada (1995)

13. Merck and Co. Inc., Basic Chemistry, Rahway, NJ, (1987)

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Boston Business Journal

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Israeli pharma opens Boston office, names R&D chief

Predix Pharmaceuticals Ltd., which recently established its U.S. operations in Boston, has appointed a renowned drug discovery veteran to run its research and discovery operations here.

Predix Pharmaceuticals Inc., the local subsidiary of Ramat Gan, the Israel-based parent company, appointed Dr. Dale S. Dhanoa as its senior vice president in charge of research and discovery.

Predix, founded in November 2000 by researchers at Tel-Aviv University, focuses on finding drug candidates that bind to protein receptors that drugs can then target for treatment.

Its investors include the OrbiMed and Yozma venture capital groups.

Dhanoa has more than 15 years of experience in the discovery and development of molecular entities for the clinical development of new therapeutics. He has held R&D and executive management positions at such companies as Whitehouse Station, N.J.-based Merck & Co. Inc.; Yardley, Pa.-based 3-Dimensional Pharmaceuticals; and Paramus, N.J.-based Synaptic Pharmaceutical Corp., among others.

Prior to joining Predix, he was chief scientific officer and executive vice president of research at PharmaCore Inc. of High Point, N.C.